Data Source: **EM CDB** Report Number: GEN-01b

Operations/Field Office: **Ohio** Print Date: 3/9/2000

0251 HQ ID: Site Summary Level: West Valley Demonstration Project

Project OH-WV-03 / Spent Nuclear Fuel

## **General Project Information**

### **Project Description Narratives**

#### Purpose, Scope, and Technical Approach:

#### PURPOSE:

The West Valley Spent Nuclear Fuel Program is to ship the West Valley Spent Nuclear Fuel owned by the Department of Energy (DOE) to the Idaho National Engineering and Environmental Laboratory (INEEL) in accordance and compliance with the following:

- (1) The DOE/ New York State Energy Research and Development Authority (NYSERDA) Cooperative Agreement on West Valley Spent Nuclear Fuel signed November, 1986;
- (2) The National Spent Nuclear Fuel Program and;
- (3) The DOE/Navy/State of Idaho Consent Order, Civil No. 91-0035-8 -EJL, 10/17/95.

The National Spent Nuclear Fuel Program schedule identifies that the West Valley Spent Nuclear Fuel should be shipped to INEEL during the six month window of opportunity scheduled between April 2, 2001 and September 14, 2001.

#### SCOPE:

The West Valley Spent Nuclear Fuel program in FY 2001 focuses on activities required for Spent Fuel shipment including the preparation of the rail cars for shipment of the spent fuel assemblies. An operational readiness review (ORR) board will be convened to determine readiness of the transport activities. Upon approval from DOE-OH to commence activities, INEEL should declare transportation and operational readiness to receive West Valley Spent Nuclear Fuel. Shipping activities will then begin with two shipments expected to occur during April 2001 and September 2001.

#### TECHNICAL APPROACH:

The 125 spent nuclear fuel (SNF) assemblies will be sent to INEEL in two shipments, with each shipment consisting of two casks. For each shipment the strategy is that half of the forty assemblies from the Robert E. Ginna (REG) nuclear power station will be shipped in the Transnuclear (TN) REG cask and half of the 85 assemblies from the Big Rock Point (BRP) nuclear power station will be shipped in the TN-BRP cask. The TN-REG and TN-BRP casks were specifically designed for the West Valley SNF shipment.

After loading the SNF into the casks in the Fuel Receiving and Storage Facility (FRS), the casks will be placed on railcars. Then casks will then be transported by train to INEEL. Once at INEEL, the cask will be moved via heavy haul equipment to Test Area North (TAN). The casks will be unloaded at TAN, and return to West Valley for the second half of the shipment. Following the second shipment, the fuel from the first shipment will be placed back into the casks, and the casks placed on a pad for interim storage.

#### **Project Status in FY 2006:**

The FY2006 status as a result of the performance of scopes planned in PBS-OH-WV-03 is the completion of shipment of the 125 spent fuel assemblies to INEEL (scheduled for FY2001), and the subsequent deactivation and initial decontamination of the West Valley Fuel Receiving and Storage (FRS) Area by the end of FY2005. PBS OH-WV-03 will be closed out at the end of FY2005. Final decontamination and decommissioning of the spent nuclear fuel facilities will be determined by the Final Environmental Impact Statement / Record of Decision (FEIS/ROD) scheduled for

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0251 HQ ID: Site Summary Level: West Valley Demonstration Project

Project OH-WV-03 / Spent Nuclear Fuel

### **Project Description Narratives**

publication in FY2000. The work scope to D&D the spent nuclear storage facilities to final NRC criteria will be performed, if required, in PBS OH-WV-02; Site Transitioning, Decommissioning and Project Completion.

#### Post-2006 Project Scope:

After shipment of the spent fuel assemblies to INEEL scheduled for FY2001, and subsequent deactivation and initial decontamination of the Fuel Receiving and Storage Area, the West Valley Spent Nuclear Fuel program will be completed. PBS OH-WV-03 will be closed out at the end of FY2005. Final decontamination and decommissioning of the spent nuclear fuel facilities will be determined by the Final Environmental Impact Statement/Record of Decision (FEIS/ROD) scheduled for publication in FY2000. The work scope to D&D the spent nuclear storage facilities to final NRC criteria will be performed, if required, in PBS OH-WV-02; Site Transitioning, Decommissioning and Project Completion.

### **Project End State**

The end state conditions as a result of the performance of scopes planned in PBS OH-WV-03 is the completion of shipment of the 125 spent fuel assemblies to INEEL (scheduled for FY2001), and the subsequent deactivation and initial decontamination of the West Valley Fuel Receiving Area by the end of FY2005. PBS OH-WV-03 will be closed out at the end of FY2005. Final decontamination and decommissioning of the spent nuclear fuel facilities will be determined by the Final Environmental Impact Statement / Record of Decision (FEIS/ROD) scheduled for publication in FY2000. The work scope to D&D the spent nuclear storage facilities to final NRC criteria will be performed, if required, in PBS OH-WV-02; Site Transitioning, Decommissioning and Project Completion.

#### **Cost Baseline Comments:**

WV has a high level of confidence in the projected storage and shipment costs because of previous project activities, (shipping 625 Fuel Assemblies back to utilities which owned them and current storage of the remaining 125 assemblies).

The source of the cost baseline data for the WVDP Fuel Program are:

- (1) DOE-WV letter to WVNS dated January 30, 1997, "Ten-Year Plan and Fiscal Year (FY) 1999 Budget Guidance;
- (2) The funding levels for SNF by fiscal year are based on the Program Management Plan (WD:94:0539) for the NFS Shipping/Storage Cask Demonstration Program and INEL Letter (MJT-22-95) to DOE-WV, "Transmittal of Cost and Schedule for INEL Activities in Support of the NFS Project" (ZW:95:0044); as revised to reflect shipment of the West Valley SNF in 2001 per the DOE Programmatic SNF Management EIS ROD, as modified February 28, 1996 to reflect the October 16, 1995 Settlement Agreement between DOE, the State of Idaho, and The Department of Navy;
- (3) Activity Data Sheets and;
- (4) Risk Data Sheets.

#### Safety & Health Hazards:

The 125 DOE-owned spent fuel assemblies are in wet storage at the WVDP site. The fuel storage pool at the WVDP is thirty years old and does not meet current DOE general design criteria. Specifically, the pool is single walled, concrete construction, unlined, and lacks the capability for leak detection and control. This presents the potential for undetected releases to the environment. Contamination is present in both sludges and pool water, and extensive releases to the environment would have catastrophic results since the pool is situated in a high water table within close proximity to Cattaraugus Creek, which flows through the Seneca Nation of Indians Tribal Lands to Lake Erie, centered in the densely populated Northeastern

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Operations/Field Office: Ohio Print Date: 3/9/2000

0251 HQ ID: Site Summary Level: West Valley Demonstration Project

Project OH-WV-03 / Spent Nuclear Fuel

## **Project Description Narratives**

portion of the United States and Canada.

Monitoring and maintenance of the fuel pool and associated facilities is continuing. The pool will however continue to degrade, increasing the probability of failure. Potential cracking of the pool wall could result in the release of contaminated sludge and water to the soil and groundwater as well as high radiation readings emanating from unshielded fuel assemblies. While conducting the spent nuclear fuel handling activities for the shipping program, an estimated occupational exposure level of 5 rem exists while performing fuel modifications; 5.5 rem while training the fuel shipping crews; and 9.5 rem while carrying out the fuel shipping campaigns, all of which will increase the risk to the site worker. While there are active hazard abatement programs, there will continue to be exposure to radioactive materials, loose contamination, and hazardous situations in a facility of this age and design.

#### Safety & Health Work Performance:

The West Valley Spent Nuclear Fuel Program is on schedule and coordinated with INEEL to ship the WVSNF in FY2001 to INEEL in accordance with the the DOE/NYSERDA Cooperative Agreement on West Valley Spent Nuclear Fuel signed November, 1986; National Spent Nuclear Fuel Program; and in compliance with the DOE/Navy/State of Idaho Consent Order, Civil No. 91-0035-8 -EJL, 10/17/95. The spent fuel program has not experienced a significant cost or schedule variance. Activities are progressing as planned and as long as funding is provided to adequately support its efforts, the spent nuclear fuel project will be completed through facility deactivation and initial decommissioning by the end of FY2005.

#### **PBS Comments:**

The Spent Nuclear Program is not a part of the scope of WVDP Act. EM-60 is to provide funding for FY1998 through FY2001 in support of the shipment of SNF to INEEL. Funding for FY1998 through FY2001 would cover both WVDP efforts associated with loading the SNF into casks at West Valley and INEEL efforts associated with transportation of the SNF to INEEL and unloading the casks at INEEL. EM-60 is to provide funding in FY2002 through FY2005 to support the decontamination and decommissioning of the Fuel Receiving and Storage Area at WV (drain fuel pool. decontaminate filters, pits and equipment, etc.).

#### **Baseline Validation Narrative:**

Validation of FY1998 through FY2000 budget data was conducted by a team of individuals from EM-30, FM-20 and the Ohio Field Office. This team compared the scopes of the work to the respective budgets defined in the Cost Account Planning Reports (CAPRs) and found the estimates to be reasonable. The Validation was performed for each of the four Project Baseline Summary's and rolled up to encompass the WVDP work scope and costs as delineated by the WVDP (Act Public Law 96-368), as well as the West Valley Spent Nuclear Fuel Program (PBS-OH-WV-03: Spent Nuclear Fuel.)

WVDP will request a validation of the FY2001 and near-term out-vear budgets during FY1999. At that time it is expected that the work scope and respective budgets in the out-years will be generated to support Project Completion activities to the extent possible based upon funding guidance and work scope activities currently being executed independent of the ROD/FEIS and required per the scope delineated in the WVDP Act (Public Law 96-

#### **General PBS Information**

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Data Source: **EM CDB** Report Number: GEN-01b

Operations/Field Office: Ohio Print Date: 3/9/2000

Site Summary Level: West Valley Demonstration Project HQ ID: 0251

Project OH-WV-03 / Spent Nuclear Fuel

### **General PBS Information**

Yes 10/29/1998 **Project Validated? Date Validated:** 

Has Headquarters reviewed and approved project? Yes

12/1/1997 **Date Project was Added: Baseline Submission Date:** 7/8/1999

FEDPLAN Project? Yes

DNFSB **CERCLA** RCRA AEA UMTRCA **DOE Orders** Other **Drivers:** State N Y Ν Y Y Y Y

## **Project Identification Information**

**DOE Project Manager:** Herman R. Moore

**DOE Project Manager Phone Number:** 716-942-4814 **DOE Project Manager Fax Number:** 716-942-4703

**DOE Project Manager e-mail address:** hmoore@wv.doe.gov

Is this a High Visibility Project (Y/N):

## **Planning Section**

# **Baseline Costs (in thousands of dollars)**

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	21,429	0	21,429	1,068	709	1,561	999	2,800	4,900	6,400	2,400	1,100	600	600	0
PBS Baseline (constant 1999 dollars)	20,509	0	20,509	1,068	709	1,561	999	2,800	4,771	6,068	2,216	989	525	511	0
PBS EM Baseline (current year dollars)	21,429	0	21,429	1,068	709	1,561	999	2,800	4,900	6,400	2,400	1,100	600	600	0

Dataset Name: FY 1999 Planning Data

Data Source: EM CDB Report Number: GEN-01b

Operations/Field Office: Ohio Print Date: 3/9/2000

Site Summary Level: West Valley Demonstration Project HQ ID: 0251

Project OH-WV-03 / Spent Nuclear Fuel

<b>Baseline Costs (in t</b>	thousand	ls of dolla	rs)												
	1997-200 Total	06 2007-2 Tota		-2070 otal		ctual 1 1997	998 Acti 19	ıal 199 98	9 2000	2001	2002	2003	2004	2005	2006
PBS EM Baseline (constant 1999 dollars)	20,5	09	0	20,509	1,068	709 1,:	561 99	99 2,800	0 4,771	6,068	2,216	989	525	511	0
	2007	2008	2009	2010				)26- )30 203			2046- 2050	2051- 2055	2056- 2060	2061- 2065	2066- 2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0 (	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0 (	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0 (	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0 (	0	0	0	0
Baseline Escalation	n Rates														
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
	0.00%	0.00%	0.00%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%		
	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070		
	2.70%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%		

# **Project Reconciliation**

# **Project Completion Date Changes:**

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Data Source: EM CDB Report Number: GEN-01b

Operations/Field Office: Ohio

Print Date: 3/9/2000

Site Summary Level: West Valley Demonstration Project HQ ID: 0251

Project OH-WV-03 / Spent Nuclear Fuel

## **Project Reconciliation**

Previously Projected End Date of Project: 9/30/2005

Current Projected End Date of Project: 9/30/2005

Explanation of Project Completion Date Difference (if applicable):

The baseline completion date for this PBS remains unchanged. This PBS is expected to be completed in FY2005.

Recent replanning efforts have enabled the WVDP to direct significant resources to the site transitioning and post vitrification effort. The FY2000 Validation of the 1999-2001 WVDP Plan formally reviewed and approved this strategy. With DOE-OH approval, functional costs are no longer required to be reported in PBS-OH-WV-04 Project Management / Site Support, and as a result the PBS structure is more compatible to the Work Breakdown Structure utilized in the Cost Management System and Cost Account Planning Report Systems.

### **Project Cost Estimates (in thousands of dollars)**

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars): 20,691 Actual 1997 Cost: 709 Actual 1998 Cost: 999

Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars): 18,983 Inflation Adjustment (2.7% to convert 1998 to 1999 dollars): 513

Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 19,496

#### **Project Cost Changes**

**Cost Adjustments** Reconciliation Narratives

**Cost Change Due to Scope Deletions (-):** 

Cost Reductions Due to Efficiencies (-):

Cost Associated with New Scope (+):

**Cost Growth Associated with Scope Previously Reported (+):** 

Cost Reductions Due to Science & Technology Efficiencies (-):

**Subtotal:** 19,496

Additional Amount to Reconcile (+): -1,616 (\$956k) Uncosteds /(\$642k) BA Reduction / (\$20k) 1997 Actual Cost Escalation to 1998 dollars.

Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 17,880

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Operations/Field Office: Ohio Print Date: 3/9/2000

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Project OH-WV-03 / Spent Nuclear Fuel

Milestones													
Milestone/Activity		Field M Co		Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Begin to Ship WV-SNF to INEEL		1303			4/1/2001	4/1/2001	4/1/2001		Y				Y
Complete SNF Transportation Plan	n	1304			6/30/1999		3/31/1999						
Preparation/Approvals for SNF Sh	nipments	1305			3/31/2001		6/30/2000					Y	Y
Complete Shipment of WV-SNF to	o INEEL	1306			9/30/2001	9/30/2001	9/30/2001		Y				Y
Complete D&D of Fuel Receiving	and Storage Area	1307			9/30/2005		9/30/2005						
PBS-OH-WV-03; Spent Nuclear F	Fuel terminated	1308			9/30/2005		9/30/2005						
WV SNF Equipment/Facilities Pre	epared				9/30/1999		9/30/1999						
Begin PBS-OH-WV-03 Format		6688			10/1/1997								
Milestones - Part II													
Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Pat	Projec h Start	•	Mission Comple		Work Scope Risk	Intersite Risk	Cancell	ed	Milestone D	escription
Begin to Ship WV-SNF to INEEL	1303		Y				1	1	1		Initiat assem	e West Valley	SNF to INEEL; spent fuel (125 nts to Test Area disposal
Complete SNF Transportation Plan	1304										Interir	n WV site wo	rking milestone
Preparation/Approvals for SNF Shipments	1305										Shipm activit equip trainir	ies to assure ment, procedu ng and prepara NF are	als for SNF and INEEL sites, res, and operator tions required to
Complete Shipment of WV-SNF to INEEL	1306		Y				1	1	1		INEE	L; Complete V	of WV-SNF to Vest Valley spent s) shipments to NEEL for

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Operations/Field Office: Ohio Print Date: 3/9/2000

Site Summary Level: West Valley Demonstration Project HQ ID: 0251

Project OH-WV-03 / Spent Nuclear Fuel

Milestones - Part II														
Milestone/Activity		Field Milestor Code	ne Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milesto	ne Descriptio	n
												disposal		
Complete D&D of Fuel Recei and Storage Area	iving 1	1307	Y									Complete D&I and Storage Ar Receiving and Spent Nuclear decontaminate approved NRC	ea: WV Fuel Storage Area f Fuel assemblic I according to	for es is
PBS-OH-WV-03; Spent Nucl Fuel terminated	lear 1	1308				Y	Y					PBS-OH-WV-Fuel, is terminal decontamination and Storage are	nted after on of Fuel Reco	
WV SNF Equipment/Facilities Prepared	es											Interim WV sit	e working mile	estone
Begin PBS-OH-WV-03 Form	nat	6688			Y							Begin PBS-OF WVDP work p 1, 1981 and Se performed in P format initiated Year Plan Guid Therefore, PBS designated as G	erformed betw pt 30,1997, w BS format. PB I by Al Alm D lance 6/10/199 I start date is	reen Oct vas not SS raft Ten
Performance Measure	e Metri	es												
Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planne 199					Planned 2003	Planne 200
SNF														
Shipped for Consolidation	MTHM	27.00	0.00	27.00	0.00		0.00				27.0	00		

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Project OH-WV-03 / Spent Nuclear Fuel

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
SNF													
Shipped for Consolidation	MTHM												
Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total			
SNF													
Shipped for Consolidation	MTHM									27.00			

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